REMARKS

The Office Action mailed December 15, 2008 notes that claims 1, 4-11, 13, 15-17, 19, 21, 23, and 25-28 were pending and rejected all pending claims. Claims 1, 7, 14, 19, 21, 23, 25, and 26 are amended. No claims are newly cancelled. New claim 29 is added. No new matter is believed to be presented.

Claims 1, 4-11, 13, 15-17, 19, 21, 23, and 25-29 are pending and under consideration. Reconsideration is respectfully requested. The rejections are traversed below.

Rejections under 35 U.S.C. § 103

The Office Action, on page 2, rejected claims 1, 4, 6-11, 13, 15-17, 19, 21, 23, and 25-27 under 35 U.S.C. § 103(a) as being unpatentable over Kent (U.S. Patent Number 7,061,475) in view of Tanimoto et al. (U.S. Patent Number 5,844,561). This rejection is respectfully traversed below.

Kent discusses a transparent cylindrical sensor enclosing a three dimensional display having a rotating helical sheet within the cylinder. Pixels are projected on the cylinder when the cylinder is touched by obtaining input from transducers. Kent notes that one must simultaneously touch the cylinder to provide input on two coordinate axes, and then touch again "to control both the position and orientation of the image of a solid body in three dimensional space." Thus, two hands and three touches on the cylinder are required to provide 3D input. (See Kent, column 77, line 60-column 78, line 40).

Tanimoto discusses a display tablet having a liquid crystal display that does not use a mouse, but rather can detect input from a stylus coming into contact with a two-dimensional concentric circular cursor. Tanimoto notes that a user may zoom and magnify, or zoom-out and scale-down information currently displayed on a two-dimensional display using the cursor. The user can easily perform such operations as if he were looking over a book or a notebook. This zoom function is required due to the limited size of the screen and helps to eliminate horizontal and vertical scrolling through information on the display. (See Tanimoto, column 18, line 63 – column 19, line 24 and column 20, line 5-line 51).

In light of the above discussion, it is respectfully submitted that claim 1, amended to clarify its distinguishing features, patentably distinguishes over Kent and Tanimoto, taken alone or in combination. Claim 1 recites "allowing a user to affect the display content **with one hand** through the passive sensor by mapping the affect to a 3D position of a cursor **within the**

display, while allowing the user to move about the display." In particular, claim 1 is amended to clarify that the cursor is within the display. Tanimoto merely discusses a cursor which is **on** the display and is not for affecting three-dimensional display content. Thus the cursor of Tanimoto cannot be manipulated in three dimensions unlike the cursor of claim 1.

Furthermore, claim 1 recites "allowing a user to affect the display content **with one hand**." This is clearly depicted in Figures 2, 7, 8, 9, 10, 11, and 12 of the Application. According to Kent, a user must simultaneously touch the cylinder to provide an x and y position, and then touch the cylinder again to provide a z position. Thus, Kent requires two hands. Kent notes that "[w]ith three touches, there is enough information (six parameters) to control both the position and orientation of the image of a solid body in three dimensional space." Kent provides very little detail on how one would go about manipulating the image. (See Kent, column 78, lines 8-11).

Additionally, Kent and Tanimoto, taken alone or in combination, do not teach or suggest "allowing a user to affect display content...**while allowing the user to move about the display**." As noted in the present Application on page 4, in paragraph [0023], there is a spatial correspondence between the input, output, and user position that is dynamically updated as the user moves about the display allowing a user to affect the display content while moving.

Claim 19 is amended to clarify its patentably distinguishable features which are not taught or suggested by Kent and Tanimoto, taken alone or in combination. In particular, claim 19 recites "affecting the 3D content of the display responsive to the interaction from one hand of the user by mapping the interacting to a 3D position of a cursor within the display, while allowing the user to move about the display."

Claim 21 is amended to clarify its patentably distinguishable features which are not taught or suggested by Kent and Tanimoto, taken alone or in combination. In particular, claim 21 recites "allowing a user to affect the display content with one hand by mapping the affect to a 3D position of a cursor within the display, while allowing the user to move about the display, said input configuration comprising a touch sensitive surface overlaid on said display"

Claim 23 is amended to clarify its patentably distinguishable features which are not taught or suggested by Kent and Tanimoto, taken alone or in combination. In particular, claim 23 recites "allowing a user to affect the display content with one hand by mapping the affect to a 3D position of a cursor within the display, while allowing the user to move about the display, said input configuration comprising a surface motion system detecting motion on a surface of said display."

Claim 25 is amended to clarify its patentably distinguishable features which are not taught or suggested by Kent and Tanimoto, taken alone or in combination. In particular, claim 25 recites "allowing a user to affect the display content with one hand by mapping the affect to a 3D position of a cursor within the display, while allowing the user to move about the display, said input configuration comprising an input device moving in three dimensions on a surface of said display."

Claim 26 is amended to clarify its patentably distinguishable features which are not taught or suggested by Kent and Tanimoto, taken alone or in combination. In particular, claim 26 recites "allowing a user to manipulate the display content through the passive sensor with one hand by mapping the affect to a 3D position of a cursor, while allowing the user to move about the display."

The dependent claims depend from the above-discussed independent claims and are patentable over Kent and Tanimoto, alone or in combination, for the reasons discussed above. The dependent claims also recite additional features not taught or suggested by Kent and Tanimoto. For example, claim 10 recites "the intermediary device...positioned on a bottom periphery of the display and a set of identical input devices positioned spaced around a bottom periphery of the display." The Office Action, on page 3, ignored the limitations found in claim 10 related to the positioning of the intermediary device on a bottom of the display for easier access with a hand which are not taught or suggested by Kent and Tanimoto. It is submitted that the dependent claims are independently patentable over Kent and Tanimoto.

The Office Action, on page 6, rejected claim 5 as being unpatentable over Kent in view of Tanimoto and further in view of Ely (U.S. Patent Number 6,667,740). This rejection is respectfully traversed below.

Nothing cited or found in Ely cures the deficiencies of Kent and Tanimoto, discussed above. Thus, since claim 5 depends from claim 1, claim 5 is patentable over Kent, Tanimoto and Ely for the reasons discussed above.

The Office Action, on page 6, rejected claim 28 as being unpatentable over Kent in view of Tanimoto and further in view of Jackson (U.S. Patent Number 4,931,782).

Jackson merely discusses a touch screen overlay used to protect a touch screen which is formed from a flexible membrane. (See Jackson, Abstract). Thus, Jackson is not related to a surface of a display, but rather a protective covering on a surface of a display. Because Jackson is only related to an overlay, it cannot teach that "the surface of said display is a deformable membrane surface." Further, nothing cited or found in Jackson cures the deficiencies of Kent

and Tanimoto, discussed above. Thus, since claim 28 depends from claim 26, claim 28 is patentable over Kent, Tanimoto, and Jackson for the reasons discussed above.

New Claim 29

New claim 29 patentably distinguishes over Kent, Tanimoto, and Ely, taken alone or in combination, because nothing teaches "receiving an input to a three-dimensional volumetric display from a pointer operated by a user relative to an input detector outside of the display, the user located at any position in proximity to the display." As discussed above, Kent requires simultaneous input from two hands and does not discuss a pointer. Furthermore, Tanimoto does not teach "interacting with **three-dimensional content inside the display** responsive to movement of the pointer by mapping the movement to the content" because Tanimoto is unrelated to three-dimensional content.

Conclusion

There being no further outstanding objections or rejections, it is submitted that the application is in condition for allowance. An early action to that effect is courteously solicited.

Finally, if there are any formal matters remaining after this response, the Examiner is requested to telephone the undersigned to attend to these matters.

If there are any additional fees or credits associated with filing of this response, please charge the same to our Deposit Account No. 19-3935.

Respectfully submitted,

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